

## AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning at page 9, line 20 with the following amended paragraph:

Specific examples of ligands that are capable of undergoing integrin-mediated molecular interactions that may be used include, but are not limited to adhesion proteins, for example fibronectin and vitronectin, or fragments thereof. Yet another example is the peptide sequence YIGSR (SEQ ID NO:1), found in laminin (B1 chain) which binds to the 67 kDa laminin receptor found on many cell types. The peptide sequence IKVAV (SEQ ID NO: 2) is found in the A chain of laminin and binds the 110 kDa receptor and may induce neurite growth.

Please replace the paragraph beginning at page 9, line 26 with the following amended paragraph:

Additionally, many different peptides that contain the IKVAV (SEQ ID NO: 2) sequence may stimulate neurite extension. Any peptide that comprises a sequence of amino acids that is able to bind to a cell adhesion receptor may be used. The suitability of a peptide may be assessed by a means of measuring protein-protein interactions, as known to those skilled in the art. Suitability may also be assessed by functional assays, for example assessing the growth of a cell type of interest on a surface patterned with the peptide under consideration.

Please replace the paragraph beginning at page 15, line 14 with the following amended paragraph:

We examined the immobilization of biotinylated ligand motifs, bridged by avidin to the material surface, maintained their ability to interact with cell surface receptors. We functionalized the surface of PLA-PEG-biotin films with a biotinylated polypeptide (biotin-(G)11-GRGDS) (SEQ ID NO: 3) that contains the cell adhesive tripeptide Arg-Gly-Asp (RGD). RGD is known to promote cell attachment and spreading through cell surface integrin receptors (Wilchek and Bayer, 1990). Immobilization of the biotin-(G)11-GRGDS (SEQ ID NO: 3) was confirmed by fluorescence binding studies in which avidin-immobilized PLA-PEG-biotin films were exposed to the biotinylated peptide, washed, and then exposed to a solution of B-FITC and rewashed. No fluorescence was detectable by confocal fluorescence microscopy indicating that

biotin binding sites on the surface immobilized avidin were fully occupied with biotin-(G)11-GRGDS(SEQ ID NO: 3). In control experiments, exposure of the films to the B-FITC solution without prior exposure to the biotin-(G)11-GRGDS (SEQ ID NO: 3) generate films with high intensities of fluorescence.

Please replace the paragraph beginning at page 15, line 26 with the following amended paragraph:

Attachment and spreading of bovine aortic endothelial cells was observed on the PLA-PEG-biotin-avidin-biotin-(G)11-GRGDS (SEQ ID NO: 3) polymer surface at all time points, while no spreading was observed on negative controls which included samples composed of PLA-PEG, PLA-PEG-biotin, PLA-PEG-biotin-avidin, and PLA-PEG-biotin-avidin-biotin. In addition, no cell spreading was observed on samples of PLA-PEG-biotin which were incubated in biotin-(G)11-GRGDS (SEQ ID NO: 3), demonstrating the lack of nonspecific binding of the biotinylated RGD sequence to the polymer surface. The eleven glycine residue was provided to ensure clearance of the cell adhesive RGD sequence from the avidin binding pocket (Pierschbacher and Ruoslahti, *Proc. Natl. Acad. Sci., U.S.A.*, 1984, 81, 5985; Green, “Avidin and Streptavidin” in *Methods in Enzymology: Avidin-Biotin Technology*, Vol 184, Academic Press, Inc., New York, 1990; Beer et al., *Blood*, 1992, 79, 117). Scheme 5 shows images of cells on the PLA-PEG-biotin and PLA-PEG-biotin-avidin-biotin-(G)11-GRGDS (SEQ ID NO: 3) surfaces along with a histogram of measured cell area for each sample.

Please replace the paragraph beginning at page 19, line 5 with the following amended paragraph:

*Sample Preparation:* Films of PLA-PEG-biotin or PLA-PEG were prepared by drop casting 100  $\mu$ L aliquots of the 10-mg/mL solution of the polymer in chloroform onto circular glass coverslips. Six sample types were prepared for the cell studies: PLA-PEG, PLA-PEG-biotin. PLA-PEG-biotin incubated with avidin, PLA-PEG-biotin incubated with avidin and biotin, PLA-PEG-biotin incubated with biotin (G)11-GRGDS (SEQ ID NO: 3), and PLA-PEG-biotin with avidin and biotin (G)11-GRGDS (SEQ ID NO: 3). The films on coverslips were

placed in 6-well plates and sterilized under UV light for 10 minutes. The films were washed 3 times with sterile phosphate-buffered saline prior to seeding with cells.

After page 19, beginning on a new page, e.g., before the claims, please insert the attached Sequence Listing into the above-referenced case; please renumber subsequent pages accordingly.